

Notice of Allowability

Application No.

10/785,662

Examiner

Hoi C. Lau

Applicant(s)

CAINE, PATRICK J.

Art Unit

2612

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed on March 27, 2006.
2. ☒ The allowed claim(s) is/are 7 and 8.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

1. Claims 7 and 8 are allowed.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Michael McKenna on April 18, 2006.

The application has been amended as follows:

Amendments of Claims 1-30 filed on March 27, 2006 are started and placed in separate sheets as an individual document.

Allowable Subject Matter

3. The following is an examiner's statement of reasons for allowance:
With regards to independent **claims 7 and 8**, the prior art does not specifically disclose or suggest the digital storage medium has a plurality of distinct fixed frequency mosquito dispersing pitch patterns stored thereon in the range of about 20 to 40 hertz where user able to select a distinct pitch pattern for the plurality of distinct fixed frequency pitch pattern.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

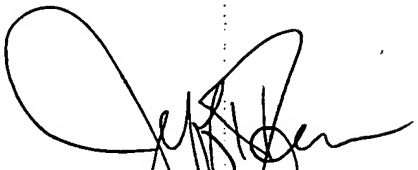
4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
 - a. Leftridge, Sr (U.S. 6,570,494) "Mosquito guard"
 - b. Grissom et al. (U.S. 6,166,996) "Ultrasonic broadband frequency transducer..."
 - c. Mafra-Neto et al. (U.S. 6,766,251) "Method for pest management using pest..."
5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoi C. Lau whose telephone number is (571)272-8547. The examiner can normally be reached on M- F 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Hofsass can be reached on (571)272-2981. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hoi C Lau
Art Unit 2612



JEFFERY HOFSSASS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

IN THE CLAIMS:

1. (Cancel) In an environment comprising a power source for powering an amplifier circuit connected to at least one speaker for producing sound, a mosquito dispersing device comprising means for generating a mosquito dispersing pitch pattern having a frequency in the range of at least one of a wing beat frequency of a dragonfly and a wing beat frequency of a damselfly, that is, in the range of about 15 to 50 hertz, from which a signal having a frequency of the mosquito dispersing pitch pattern can be produced for use with the amplifier circuit to direct the at least one speaker to produce vibrations of the mosquito dispersing pitch pattern in a dispersing area,

whereby, mosquitos in the dispersing area can be diminished by at least one of

fleeing upon sensing the vibrations of the mosquito dispersing pitch pattern and succumbing to an increased presence of at least one of dragonflies and damselflies attracted to the dispersing area by the vibrations of the mosquito dispersing pitch pattern.

2. (Cancel) The mosquito dispersing device of claim 1, wherein the frequency of the mosquito dispersing pitch pattern is below the ultrasonic range.
3. (Previously Canceled) The mosquito dispersing device of claim 1, wherein the frequency of the mosquito dispersing pitch pattern is in the range of about 15 to 50 hertz.
4. (Cancel) The mosquito dispersing device of claim 1, wherein the frequency of the mosquito dispersing pitch pattern is in the range of about 20 to 40 hertz.
5. (Cancel) The mosquito dispersing device of claim 1, wherein the frequency of the mosquito dispersing pitch pattern is fixed at about 33.5 hertz.
6. (Cancel) The mosquito dispersing device of claim 1, wherein the means for generating a mosquito dispersing pitch pattern includes an integral converter and the mosquito dispersing pitch pattern is generated in a digital format from a digital storage medium, and the signal having a frequency of the mosquito dispersing pitch pattern is produced by the integral converter of the mosquito dispersing device for converting the mosquito dispersing pitch pattern from digital to analog.
7. (Previously Amended) In an environment comprising a power source for powering an amplifier circuit connected to at least one speaker for producing sound, a mosquito dispersing device comprising means for generating a mosquito dispersing pitch pattern having a frequency in the range of at least one of a wing beat frequency of a dragonfly and

a wing beat frequency of a damselfly, from which a signal having a frequency of the mosquito dispersing pitch pattern can be produced for use with the amplifier circuit to direct the at least one speaker to produce vibrations of the mosquito dispersing pitch pattern in a dispersing area, wherein the means for generating a mosquito dispersing pitch pattern includes an integral converter and the mosquito dispersing pitch pattern is generated in a digital format from a digital storage medium, and the signal having a frequency of the mosquito dispersing pitch pattern is produced by the integral converter of the mosquito dispersing device for converting the mosquito dispersing pitch pattern from digital to analog, and wherein the digital storage medium has a plurality of distinct fixed frequency mosquito dispersing pitch patterns stored thereon in the range of about 20 to 40 hertz, and the device further comprises means for selecting a distinct pitch pattern from the plurality of distinct fixed frequency mosquito dispersing pitch patterns stored on the digital storage medium,

whereby, mosquitos in the dispersing area can be diminished by at least one of fleeing upon sensing the vibrations of the mosquito dispersing pitch pattern and succumbing to an increased presence of at least one of dragonflies and damselflies attracted to the dispersing area by the vibrations of the mosquito dispersing pitch pattern, and a user of the mosquito dispersing device can selectively choose one of the plurality of distinct fixed frequency mosquito dispersing pitch patterns to affect mosquitos of varying sensitivities.

8. (Previously Amended) In an environment comprising a power source for powering an amplifier circuit connected to at least one speaker for producing sound, a mosquito dispersing device comprising means for generating a mosquito dispersing pitch pattern having a frequency in the range of at least one of a wing beat frequency of a dragonfly and a wing beat frequency of a damselfly, from which a signal having a frequency of the mosquito dispersing pitch pattern can be produced for use with the amplifier circuit to direct the at least one speaker to produce vibrations of the mosquito dispersing pitch pattern in a dispersing area, wherein the means for generating a mosquito dispersing pitch pattern includes an integral converter and the mosquito dispersing pitch pattern is generated in a digital format from a digital storage medium, and the signal having a frequency of the mosquito dispersing pitch pattern is produced by the integral converter of the mosquito dispersing device for converting the mosquito dispersing pitch pattern from digital to analog, and wherein the digital storage medium has at least one fixed frequency mosquito dispersing pitch pattern stored thereon in the range of about 20 to 40 hertz and at least one mosquito dispersing pitch pattern having a plurality of frequencies in the range of about 20 to 40 hertz, and the device further comprises means for selecting a distinct pitch pattern from the at least one fixed frequency mosquito dispersing pitch pattern in the range of about 20 to 40 hertz and the at least one mosquito dispersing pitch pattern having a plurality of frequencies in the range of about 20 to 40 hertz stored on the digital storage medium,

whereby, mosquitos in the dispersing area can be diminished by at least one of fleeing upon sensing the vibrations of the mosquito dispersing pitch pattern and

succumbing to an increased presence of at least one of dragonflies and damselflies attracted to the dispersing area by the vibrations of the mosquito dispersing pitch pattern, and a user of the mosquito dispersing device can selectively choose one of the at least one fixed frequency mosquito dispersing pitch pattern in the range of about 20 to 40 hertz and the at least one mosquito dispersing pitch pattern having a plurality of frequencies in the range of about 20 to 40 hertz to affect mosquitos of varying sensitivities.

9. (Cancel)The mosquito dispersing device of claim 6, wherein digital storage medium comprises one of Flash ROM, Smart Media, and compact flash.
10. (Cancel)The mosquito dispersing device of claim 1, further comprising an extraneous converter and wherein the mosquito dispersing pitch pattern is generated in a digital format from a digital storage medium, and the signal having a frequency of the mosquito dispersing pitch pattern is produced by the extraneous converter connected to the amplifier circuit for converting the mosquito dispersing pitch pattern from digital to analog.
11. (Cancel)The mosquito dispersing device of claim 1, wherein the means for generating a mosquito dispersing pitch pattern comprises a pulse circuit developing a pitch pattern signal of a select frequency in the range of 20 to 40 hertz.
12. (Cancel)The mosquito dispersing device of claim 11, wherein the pulse circuit comprises a monostable timer circuit.
13. (Cancel)The mosquito dispersing device of claim 12, wherein the monostable timer circuit comprises an integrated time circuit connected to an RC circuit and resistance and capacitance of the RC circuit is selected to provide the select frequency.

14. (Cancel)The mosquito dispersing device of claim 1, further comprising at least one speaker suitably sized to be powered by the means for amplifying to cause the vibrations of the mosquito dispersing pitch pattern to radiate throughout the dispersing area.

15. (Cancel)A mosquito dispersing device comprising:

- (1) means for generating a mosquito dispersing pitch pattern having a frequency in the range of at least one of a wing beat frequency of a dragonfly and a wing beat frequency of a damselfly, that is, in the range of about 15 to 50 hertz;
- (2) means for generating a signal having a frequency of the mosquito dispersing pitch pattern for use with an amplifier; and
- (3) means for amplifying the signal to power at least one speaker to produce vibrations of the mosquito dispersing pitch pattern in a dispersing area,

whereby, mosquitos in the dispersing area can be diminished by at least one of fleeing upon sensing the vibrations of the mosquito dispersing pitch pattern and succumbing to an increased presence of at least one of dragonflies and damselflies attracted to the dispersing area by the vibrations of the mosquito dispersing pitch pattern.

16. (Cancel)The mosquito dispersing device of claim 15, wherein the frequency in the range of at least one of a wing beat frequency of a dragonfly and a wing beat frequency of a damselfly is in the range of about 20 to 40 hertz.

17. (Cancel)A mosquito dispersing device comprising:

- (1) means for generating a pitch pattern signal having a frequency in the range of at least one of a wing beat frequency of a dragonfly and a wing beat frequency of a damselfly, that is, in the range of about 15 to 50 hertz; and
- (2) means for amplifying the pitch pattern signal to power at least one speaker to replicate the vibrations of the at least one of the wing beat frequency of a dragonfly and the wing beat frequency of a damselfly in an area to effectively disperse mosquitos from the area.

18. (Cancel)The mosquito dispersing device of claim 1, wherein the means for generating a pitch pattern signal comprises:

- (1) means for storing the pitch pattern signal; and
- (2) means for accessing the pitch pattern signal stored on the means for storing.

19. (Cancel)The mosquito dispersing device of claim 18, wherein the pitch pattern signal is in digital format and the means for storing is a digital storage medium; and further comprising a converter for converting the pitch pattern signal from digital to analog.

20. (Cancel)A mosquito dispersing device comprising:

- (1) a housing;
- (2) a speaker in said housing;
- (3) a pulse circuit in the housing developing a pulse signal of a

select frequency in the range of 20 to 40 hertz; and

- (4) an amplifier connecting the pulse circuit to the speaker, wherein the speaker develops an acoustic wave of a frequency corresponding to wing beat of a mosquito predator.

21. (Cancel)The mosquito dispersing device of claim 20, wherein the pulse circuit comprises a monostable timer circuit.

22. (Cancel)The mosquito dispersing device of claim 21, wherein the monostable timer circuit comprises an integrated time circuit connected to an RC circuit and resistance and capacitance of the RC circuit is selected to provide the select frequency.

23. (Cancel)A mosquito dispersing device comprising:

- a. means for generating a signal having a frequency of the mosquito dispersing pitch pattern having a frequency in the range of at least one of a wing beat frequency of a dragonfly and a wing beat frequency of a damselfly, that is, in the range of about 15 to 50 hertz, comprising a first printed circuit board,

said first printed circuit board having a ;

- b. means for amplifying the signal to power at least one speaker to produce vibrations of the mosquito dispersing pitch pattern in a dispersing area;

24. (Cancel)A mosquito dispersing device comprising:

- a. a housing;
- b. a speaker in said housing;

- c. in the housing, means for generating a pitch pattern signal comprising means for storing the pitch pattern signal and means for accessing the pitch pattern signal stored on the means for storing,

said pitch pattern signal being in digital format of a select frequency in the range of 20 to 40 hertz and the means for storing being a digital storage medium;
- d. a converter in the housing for converting the pitch pattern signal from digital to analog; and
- e. an amplifier connecting the means for generating a pitch pattern signal to the speaker, wherein the speaker develops an acoustic wave of a frequency corresponding to wing beat of a mosquito predator.

25. (Cancel) The mosquito dispersing device of claim 24, wherein digital storage medium comprises one of Flash ROM, Smart Media, and compact flash.

26. (Cancel) A mosquito dispersing device comprising:

- a. means for generating a signal having a frequency of a mosquito dispersing pitch pattern with a frequency in the range of at least one of a wing beat frequency of a dragonfly and a wing beat frequency of a damselfly comprising a first printed circuit board,

said first printed circuit board having a digital storage medium for storing the mosquito dispersing pitch pattern and a pre-amplifier for accessing the mosquito dispersing pitch pattern stored on the digital storage medium and producing an analog signal having the

frequency of a mosquito dispersing pitch pattern;

- b. means for amplifying the signal to power at least one speaker comprising a second printed circuit board,

said second printed circuit board comprising an amplifier circuit for amplifying the analog signal having the frequency of a mosquito dispersing pitch pattern to produce vibrations of the mosquito dispersing pitch pattern in a dispersing area.

- 27. (Cancel) The mosquito dispersing device of claim 26, wherein the frequency of the mosquito dispersing pitch pattern is in the range of about 20 to 40 hertz.
- 28. (Cancel) The mosquito dispersing device of claim 27, wherein the first printed circuit board further comprises an integrated sensor responsive to a remote control.
- 29. (Cancel) The mosquito dispersing device of claim 27, further comprising a power supply for powering the means for generating and the means for amplifying.
- 30. (Cancel) The mosquito dispersing device of claim 29, wherein the power supply comprises a battery.